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THE MIDDLE YUKON.¹—II.

WHEN we were nearly ready to start, on the morning of the 17th, we found four Ayan Indians, in as many canoes, at our camp, from the Kah-tung village above, they having left it shortly after we had, and camped just above us on the river for the night. They were going down the river some two hundred to three hundred miles, to a white trader's, and we kept passing each other for the next three or four days. I found the floating of the raft, carefully kept in the current for from twelve to fourteen hours each day, with no detentions, fully equalled the average day's journeys of the canoes, which were in the water but seven or eight hours a day; their occupants stopping to hunt every animal that was seen, and to cook a midday lunch. In fact, my Indians that traded among them more than hinted that they were hurrying in order to go along with us.

I should have stated, that on the 16th we had a number of disagreeable thunder-showers in the afternoon; their rarity on this river making them interesting to note. The Ayans that met us on the morning of the 17th had with them the carcass of a black bear, which they offered us for sale: and on buying one hindquarter, all that we could use, they offered us the rest as a present; which offer being accepted only as far as the other hindquarter, the rest was left by them on the gravel-beach, which was explained by the fact that all four of these were medicine-men, and as such they never partook of bear-meat. They told us that it was the bear we had seen the day before.

The morning of the 17th, and, in fact, intervals during the day, were characterized by a heavy fog, not quite reaching the river-bottom, but cutting the hills at an altitude of from three hundred to four hundred feet above the level of the stream. It gave the country a dismal air, but was much better in physical comfort than the day before, with its alternating rain and blistering heat. We found these fogs to be very common on this part of the river, being almost inseparable from the southern winds, the prevailing ones at this time of the year. I suppose the fog results from the moisture-laden air over the warm Pacific crossing the glacier-capped mountains of the Alaskan coast, and reaching this part of the Yukon valley with its aqueous vapor precipitated as rain or fog. About half-past one in the afternoon we floated past the mouth of the White River, coming in from the south, which has the local name of Yu-ko-kon Heen-a, or Yukokon River,

a much prettier name than the old one of the Hudson-Bay traders. The Chilcats call it the Sand River, from the innumerable bars and banks of sand along its course; and many years ago they ascended it by a trail, which, continued, leads to their country, but is now abandoned. Forty or fifty miles up its valley the trail leading from the head of the Tanana to old Selkirk crosses its course; and since Fort Selkirk was burned in 1851, the Tanana Indians, who then used it considerably to reach that point for trading, travel it but little. It seems to flow almost liquid mud (and no better example of its extreme muddiness can be given than to state that one person of the party mistook a mass of timber on the up-stream side of a low, flat mud-bar, for floating timber, and as evidence of a freshet, which seemed apparent from the muddy water, until its permanent character was established by closer observation). The mud-bar and adjacent waters were so exactly of the same color, that the line of demarcation was not readily apparent. The Indians say that it rises in glacier lands, and that it is very swift, and full of rapids, along its whole course. So swift is it at its mouth, that it pours its muddy waters into the rapid Yukon, and carries them nearly across that stream; the waters of the two streams mingling almost at once, and not running for miles distinct, as is stated in one book on Alaska. From its mouth to Bering Sea, the Yukon is so muddy that it is noticeable even when taken up in the palm of a hand; and all fishing with hook and line ceases.

About four in the afternoon the mouth of the Stewart River was passed, and, being covered with islands, would not have been noticed except by its valley, which is very conspicuous. A visit to the shore showed its mouth to be deltoid in character, three mouths being noticed, and probably more existing. Islands were very numerous in this vicinity, and covered with spruce and poplar. The swift current, cutting into their alluvial banks, kept their edges bristling with freshly fallen timber; and it was almost destruction to get under this *abatis* of trees with the raft, in the powerful current, and some of our hardest work was to avoid it,—a very hard thing to do, as, where they were the thickest, the current set in the strongest.

It may be necessary to explain how a greater amount of such fallen timber should exist on this river than on any other in the temperate zones equally wooded, and I think I can do so to the satisfaction of my readers. Fig. 10 represents a bank of any river, the stumps s s

¹ Concluded from No. 70.

representing trees, which, if undermined as far as *c*, will generally tumble in along *cd*, and carry away a couple of trees, the roots of

Yukon; the banks, as we saw them, being generally about eight feet above the level of the water. This is about the depth to which



not more than one being able to hold it so as to form an *abatis* along the bank. Fig. 11 represents a similar sketch on this part of the

the moist ground freezes solid; and the banks, therefore, have the tenacity of ice to support them; and it is not until the water has eroded

as far as *c* (five or six times as far as in fig. 10) that the superincumbent weight becomes great enough to break off the projecting bank along *c d*; and *c d S*, as a solid, frozen mass, tumbles in around the axis *c*, and, being too heavy for the water to sweep away, it remains until thawed out and washed away.

I have roughly attempted to show this in fig. 12. I think any one will acknowledge that the raft *R*, carried by a current sweeping towards *C*, is not in a very desirable position. It is generally bad enough on any river with a single line of trees along its scarp, but on the Yukon it is as much worse as I have shown. In fig. 12 the maximum is depicted just as the bank falls; and it requires but a few days for all the outer trees to be packed away by the swift current, and a less bristling aspect presented, the great mass acting somewhat as a barrier to again erode the bank for a long while. In many places along the river, this undermining had gone so far that the bank seemed full of caves; and, drifting close by, one could see and hear the dripping from the thawing surface, *c S* (fig. 11). In other places the half-polished surface of the ice could be seen in recent fractures as late as July, and even August.

On the 18th, shortly after noon, we passed a number of Indians on the right bank with sixteen canoes. It was probably a trading or hunting party, there being one for each canoe, and no women with them. About 8.30 p.m. we passed an Indian camp on the left bank, which, from the apparent good-looking quality of their tents as viewed from the river, we thought might be a mining-party. From them we learned that a deserted white man's store was but a few miles farther on, but that the man had left a number of months before, going down to salt water, as they expressed it. We camped that night at the mouth of a conspicuous but small stream coming in from the east, that we afterwards learned was called Deer Creek by the traders, from the large number of caribou seen in its valley at certain times of their migrations. At this point the

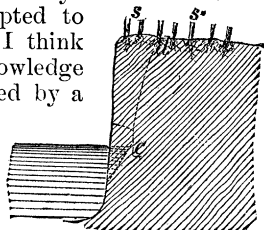


FIG. 10.

Yukon River is extremely narrow for such a distance from its head, and considering its previous mean width, being between two hundred and two hundred and fifty yards. It must have great depth, for its increase in current does not seem adequate to carry its previous volume.

Believing I was now near the British boundary, I reluctantly determined on giving a day (the 19th of July) to astronomical observations,—reluctantly, because every day was of vital importance in reaching St. Michael's, near the mouth of the river, in time to reach any outgoing vessels for the United States. That day, however, proved so tempestuous, and the prospects so uninviting, that, after getting a couple of poor 'sights' for longitude, I ordered camp broken, and we got off at 11.10 A.M. A few minutes before one o'clock we passed the abandoned trading-station on the right bank of the river, which, we surmised from certain maps, and information received afterwards, was named Fort Reliance. It was a most dilapidated-looking frontier pile of

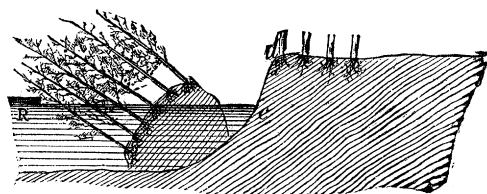


FIG. 12.

shanties, consisting of one main house, the store above ground, and three or four cellar-like houses, the roofs of which were the only parts above the level of the ground. We afterwards learned that the trader, Mr. McQuestion, had left, fearing some harm from the Indians.

Nearly opposite Reliance was the Indian village of Noo-klak-o, numbering about a hundred and fifty souls. Our approach was announced by the firing of from fifty to seventy-five discharges of guns, to which we replied with a much less number. This method of saluting is very common along the river, from here down, and is an old Russian custom that has found its way this far up the stream, much beyond where they ever traded. It is a custom often mentioned in descriptions of travels farther down the river. The permanent number of inhabitants, according to Mr. McQuestion, was about seventy-five to eighty; and therefore there must have been a great number of visitors among them at the time of our passing. They seemed very much disappointed that we did not visit them, and the

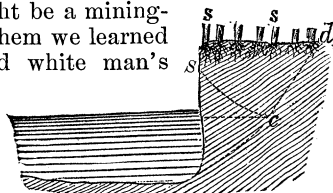


FIG. 11.

many that crowded around the raft spoke only of tea and tobacco. Their principal diet, I understand, is moose, caribou, and salmon. Their village is a semi-permanent but squalid-looking affair,—somewhat like those of the Ayans, but with a greater predominance of canvas.

Starting at 8.10 A.M., next morning, from camp 33, at 11.30 we passed a good-sized river coming in from the west, which I named the Cone-Hill River, from the fact that there is a conspicuous conical hill in its valley, near the mouth. Just beyond the mouth of the Cone-Hill River we saw three or four bears, both black and brown, in an open or untimbered space on the steep hillsides of the western bank. We gave them a volley, with no effect except to send them scampering up the hill into the

identify any of the smaller streams clearly from the descriptions and maps now in existence, and aided by the imperfect information gained from the local native tribes. Between 2.30 P.M. and 3 P.M. we floated past a remarkable-looking rock, standing conspicuously in a flat, level bottom of the river, and very prominent in its isolation.¹ It very much resembled Castle Rock on the Columbia, but is only about half its size. Dark, lowering clouds still obscured the tops of the river-hills. At half-past twelve we came upon an Indian village of a permanent character, of some six houses, on the western bank of the river, which is generally called Johnny's village, the Indian name being Klat-ol-klin. It numbered from seventy-five

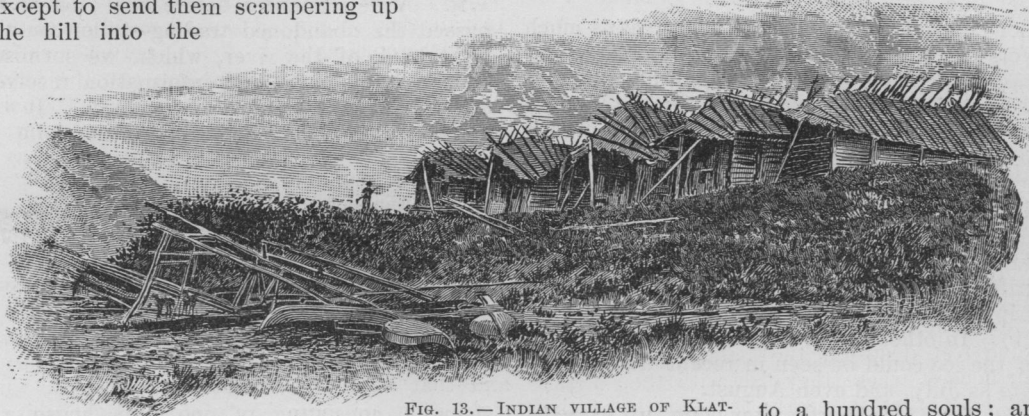


FIG. 13.—INDIAN VILLAGE OF KLAT-OL-KLIN, OR JOHNNY'S VILLAGE.

brush. I was told by a person in southern Alaska, undoubtedly conscientious in his statement, and having considerable experience, that the brown and black bear of his district never occupied the same localities, and although these localities might be promiscuously mixed, like the spots on a checker-board, yet each species of them remained rigidly on his own color, so to speak; and this led him to believe that the weaker of the two, the black bear, had good reasons to be afraid of his more powerful kind. This day's experience of the two kinds together, in one very small area, shows either an error of judgment of the observer mentioned, or a peculiarity of temper in the animals we saw. My authority spoke also of the manner in which the Indians persistently avoided the haunts of the brown bear, and this terror of that animal I found to exist as far as my travels extended.

After leaving the Stewart River, which had been identified by a sort of *reductio ad absurdum* reasoning, I found it absolutely impossible to

to a hundred souls; and on the gravel-beach in front of the row of houses

were probably from one-fourth to one-third as many canoes of the birch-bark variety, but larger and clumsier in construction than those of the Ayans. A number of long leaning poles, braced on their down-hill ends by cross uprights, were also seen; and these serve as scaffoldings for drying salmon, and to keep them from the many dogs while going through this process. While taking a photograph, two or three salmon fell from the poles; and in a twinkling, I think fully sixty or seventy dogs were in a writhing mass over them, each one trying to get his share. These dogs were of a smaller breed, and noticeably of a darker color, than the Eskimo dogs of the lower river. They subserve these Indians the same purpose. The body of the houses is of a very inferior quality of log construction, in which ventilation seems to be the predominating idea (although even then not to a sufficient degree, as judged by one's nose upon

¹ Called the Roquette Rock, after M. Alex. de la Roquette of Paris, France.

entering), and the large door in front is roughly closed by a well-riddled moose or caribou skin, or occasionally a piece of canvas. The roof is of skins battened down by spruce poles. The row of houses is so close to the scarp of the bank, that the 'street' in front is a narrow path, where two persons can hardly pass without stepping indoors or down the hill, and, when I visited the village, was so monopolized by scratching dogs that I could hardly force my way through. A fire is built on the dirt-floor in the centre of the habitation, and the smoke left to get out the best way it can. As the occupants are generally sitting flat on the floor, they are in a stratum of air comparatively clear; for the smoke can find air-holes through the cracks of the house-walls, while that which is retained under the skins of the roof is utilized to smoke the salmon which are hung up in this space.

It was at this village that to me the most wonderful and striking performance ever given by any natives we encountered on the whole trip was displayed, and in this I refer to their method of fishing for salmon. I have spoken of the extreme muddiness of the Yukon from the mouth of the White River; and this spot, of course, is no exception. I believe I do not exaggerate in the least when I say, that, if any ordinary pint tin cup was filled with it, nothing could be seen at the bottom until the sediment settled. The water is from eight to twelve feet deep on the banks in front of their houses, where they fish with their nets; or at least that is nearly the length of the poles to which the nets are attached. The salmon that I saw them secure were caught about two hundred and fifty or three hundred yards out from the bank, directly in front of the houses. Standing in front of this row of cabins, some person, generally an old squaw, possibly on duty for that purpose, would announce that a salmon was coming up the river, when some man, identifying its position, would run down to the beach, and pick up his canoe, paddle, and net, and start out into the river rapidly; the net lying on the canoe's deck in front of him, his movements being guided by his own sight and that of a half-dozen others on the beach and bank, all shouting to him at the same time. Evidently, in the canoe he could not judge well at a distance: for he seemed to rely on the advice from shore until the fish was near him, when, with one or two dexterous and powerful strokes with both hands, he shot the canoe to the position he wished; regulating its finer movements by the paddle in his left hand, while with his right he plunged the net the whole length of its pole

to the bottom of the river, from eight to twelve feet; often leaning well over, and thrusting his arm deeply into the water, so as to adjust the mouth of the net (covering about two square feet) directly over the course of the salmon. Of seven attempts, at intervals covering three hours, two were successful, salmon being caught weighing about fifteen pounds. How these Indians at this great distance can see isolated running salmon on the bottom of an eight or ten feet deep river, and determine their position near enough to catch them in the narrow mouth of a small net, when under the eye a vessel holding that many inches of water from the river completely obscures an object at its bottom, is a marvellous problem that I will not attempt to unravel; it of course depends in some way on the motion of the fish. In vain they attempted to show members of the party the coming fish. I feel perfectly satisfied that none of the white men saw the least traces that the natives tried to show. In their houses and on the scaffoldings were several hundred that had been caught in this way. The only respectable theory that I could evolve, was that the salmon came along near the top of the water, so as to show, or nearly show, the dorsal fin (for it borders on the marvellous that they could be seen at the bottom, or that any motion of theirs could be detected from the top when they were on the bottom, among the ripples of the swift muddy stream), and that when they neared the canoe, the sight of it, or more likely some slight noise, probably made on purpose, sent them to the bottom without any considerable lateral deviation, and that they were thus directed into the net; but my interpreter told me that this superficial swimming did not take place, but

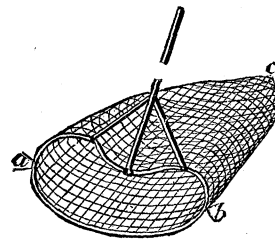


FIG. 14.

that the motion of the fish was communicated clear to the top from the bottom. The nets used I have partially described already. The mouth is held open by a light wooden frame of a reniform shape, as shown in fig. 14; and, as one will readily see, this is of great advantage in securing the handle firmly to the rim of the net's mouth, and is undoubtedly the object aimed at. I might state here, that farther down the river (that is, in the 'lower rapids') the reniform rim becomes circular, of course increasing the chances of catching the

fish; all the dimensions also become much larger. It may be interesting to state, that, when the fish is netted, a turn is given to the handle, thus effectually trapping it below the mouth; and, when brought up alongside, a fish-club (fig. 15) is used to kill it immediately, for the struggles of so large a fish might easily upset a fragile canoe. A number of Hudson-Bay taboggans were seen at the Indi-



FIG. 15.

an village, and near the trading-station, on scaffolds, and seem to be the principal sledges of the country. Their snow-shoes differed from those of the Chilcats only in immaterial designs.

The next day, the 22d, while under way, we saw a dead king-salmon floating belly upwards, and on the lower river saw a few, but never saw the numbers spoken of by previous travelers. I now noticed, in many places in the flat river-bottoms (with high banks, however), that the ground, especially in open places, was covered with a springy moss or peat; and if the bank was at all gravelly, so as to give good drainage, and allow the water to scour out underneath, as usual in temperate climes, and not in immense frozen masses, as previously described, this sphagnum was so tough that it would not go with the banks, but remained attached to that of the crest, forming great blankets a foot thick, that overhung the shores, as I have tried to show in fig. 16. Some of these banks were from fifteen to eighteen feet high, and this moss would reach to the water. I suppose the reason that it was more noticeable in open spaces was, that the trees and shrubs, and especially their roots, would, from undermining, carry the moss with their heavy weight into the water as they fell.

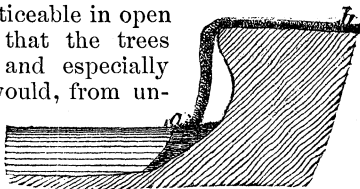


FIG. 16.

For the first time the soil seemed to be thick and black; and grass, always good, was now really luxuriant for any climate. At camp 36 we found rosebuds large and sweet enough to eat. They were much larger than those at home, somewhat pear-shaped; and the increase in size is entirely in the fleshy capsule, while even the seeds seem to be less 'downy' and dry than those of temperate climes. During the night of the 22d-23d the river rose ten inches, all of which, I think, can be accounted for by the recent continued summer rains.

At 3.30 of the 23d we sighted Charlie's village, as it is called; but the current was so swift that we could not get the raft in so as to camp alongside, but made a sand-bar half a mile below. Charlie's village was an exact counterpart of that of Johnny's, even as to number of houses; and considering this, and the trouble to reach it, I did not attempt to photograph it. Attempting to reach it with the raft, so anxious were the Indians that we should be successful, that as many as could do so, put the bows of their canoes on the outer log of the raft, and paddled with such vehemence that it seemed as if life depended upon success. We found a Canadian voyager by the name of Jo Sadue among them, who, as a partner of one of the traders on the lower river, had drifted here in prospecting the stream for precious mineral. Jo, as he is known, speaks of the natives of both of these villages as Tadoosh, and says that they are the best-natured Indians from here to the mouth of the river.

On the 24th the country seemed to flatten out, the hills having lower grades; but the mountains well to the westward still had patches of snow on their sides near the summits. About half-past ten we saw a large buck moose swim from an island to the mainland just back of us, having probably, as a hunter would say, 'gotten our scent.' About two in the afternoon the river widened out to a great extent, and was full of islands. Starting from camp 38, the river, as the map shows, becomes one vast network of islands, the whole country as level as the great plains; and, as we entered it, our Chilcats seemed seriously to think that we were going out to sea; indeed, a person having no knowledge of the country might well think so. Here the mosquitoes were a little worse than in the hilly country, and the gnats most decidedly so. As we started out into this flat country, the mountains to the left (or west) still continued in a range that was thrown back at an angle from the river's course, and that ran out in a spur that was still continued by a series of peaks rising out of the flat land, and diminishing in size until they disappeared towards the north-north-west. I called them the Ratzel range, or peaks, after Professor Ratzel of Munich.

The 27th of July we made old Fort Yukon (now abandoned as a trading-station), and connected our surveys with those of Capt. Raymond's party in 1869, thus giving a survey the whole length of the river.

FRED'K SCHWATKA,
Lieut. U. S. army.